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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,480	06/01/2001	Kouki Fukui	2001_0681A	1037

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EXAMINER

AUGHENBAUGH, WALTER

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/870,480

Applicant(s)

FUKUI, KOUKI

Examiner

Walter B. Aughenbaugh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-42,44,45 and 47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-42,44,45 and 47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. In view of the Appeal Brief filed on February 23, 2005, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

WITHDRAWN REJECTIONS

2. The 35 U.S.C. 103 rejections that were repeated in paragraphs 5-8 of the previous Office Action mailed August 25, 2004 have been withdrawn due to Applicant's arguments in the Appeal Brief filed on February 23, 2005.

3. The 35 U.S.C. 103 rejections made of record in paragraphs 9 and 10 of the previous Office Action mailed August 25, 2004 have been withdrawn due to Applicant's arguments in the Appeal Brief filed on February 23, 2005.

NEW REJECTIONS

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 15, 16, 21, 22, 26-31, 35-42, 44, 45 and 47 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukui et al.

In regard to independent claim 15, Fukui et al. teach a noncombustible insulating duct (col. 1, lines 59-66) comprising an elongated strip formed of an insulating material (heat insulating layer, item 3, col. 3, lines 13-17 and Fig. 1-3) and a noncombustible sheet (outer layer, item 4) which is disposed continuously about a circumference of the insulating material so as to completely encase the insulating material when viewed in longitudinal cross section (col. 3, lines 7-11 and 51-58 and Fig. 1-3) wherein the elongated strip is arranged in a spiral shape having a plurality of turns (col. 3, lines 55-58 and Fig. 1-3) wherein adjacent turns of the plurality of turns are secured together by a bonding agent (outer layer, item 4) so as to form a tubular duct and wherein the tubular duct is noncombustible (col. 1, lines 59-66).

In regard to independent claim 22, Fukui et al. teach a noncombustible insulating duct (col. 1, lines 59-66) comprising an elongated strip formed of an insulating material (heat insulating layer, item 3, col. 3, lines 13-17 and Fig. 1-3) and a noncombustible sheet (outer layer, item 4) which is disposed continuously about a circumference of the insulating material so as to completely encase the insulating material when viewed in longitudinal cross section (col. 3, lines 7-11 and 51-58 and Fig. 1-3) wherein the elongated strip is arranged in a spiral shape having a plurality of turns (col. 3, lines 55-58 and Fig. 1-3) wherein adjacent turns of the plurality of turns are secured together by a noncombustible joint member (outer layer, item 4) so as to form a tubular duct and wherein the tubular duct is noncombustible (col. 1, lines 59-66).

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In regard to independent claim 31, Fukui et al. teach a noncombustible insulating duct (col. 1, lines 59-66) comprising an elongated strip formed of an insulating material (heat insulating layer, item 3, col. 3, lines 13-17 and Fig. 1-3) and a noncombustible sheet (outer layer, item 4) which is disposed continuously about a circumference of the insulating material so as to completely encase the insulating material when viewed in longitudinal cross section (col. 3, lines 7-11 and 51-58 and Fig. 1-3) wherein the elongated strip is arranged in a spiral shape having a plurality of turns (col. 3, lines 55-58 and Fig. 1-3) wherein adjacent turns of the plurality of turns are secured together by both a bonding agent and a noncombustible joint member (outer layer, item 4, corresponds to both the bonding agent and the noncombustible joint member as claimed) so as to form a tubular duct and wherein the tubular duct is noncombustible (col. 1, lines 59-66).

In regard to claim 16, the bonding agent (outer layer, item 4) of Fukui et al. is noncombustible because it is the outer layer of a heat insulated hose (col. 1, lines 59-66).

In regard to claims 21, 26 and 35, Fukui et al. teach that the elongated strip formed of an insulating material (heat insulating layer, item 3) has a substantially rectangular cross section (Fig. 1, 2, 5, and 6).

In regard to claims 27 and 36, Fukui et al. teach that the elongated strip (heat insulating layer, item 3) has first and second opposite sides facing in opposing axial directions of the tubular duct, respectively, and inner and outer sides facing toward an interior of the tubular duct and an exterior of the tubular duct, respectively (Fig. 1-6) and that the elongated strip has flanges projecting from the first and second sides thereof, respectively (the portions of outer layer, item 4, that overlap with the bottom of the turn of strip 3 immediately to the left of a given turn of strip 3 and with the top of the turn of strip 3 immediately to the right of the given turn of strip 3,

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see Fig. 1, 2, 5 and 6). The noncombustible joint member (outer layer, item 4) is secured to said flanges of adjacent turns of said elongated strip to connect said flanges together, thereby connecting said turns together (Fig. 1, 2, 5 and 6).

In regard to claims 28 and 37, Fukui et al. teach that the flanges identified above in regard to claims 27 and 36 include axially-extending portions extending in axial directions of the tubular duct and that the noncombustible joint member has opposing side edges that are folded-over the axially extending portions, respectively, of the flanges of the adjacent turns of the elongated strip (Fig. 1, 2, 5 and 6).

In regard to claims 29 and 38, Fukui et al. teach that the elongated strip formed of an insulating material (heat insulating layer, item 3) has a substantially rectangular cross section (Fig. 1, 2, 5, and 6).

In regard to claim 30, Fukui et al. teach that the flanges (the portions of outer layer, item 4, that overlap with the bottom of the turn of strip 3 immediately to the left of a given turn of strip 3) project into interior of the duct, and that the noncombustible joint member (outer layer, item 4) is disposed in the interior of the duct (Fig. 1, 2, 5, and 6).

In regard to claims 39 and 40, the bonding agent (outer layer, item 4) of Fukui et al. is noncombustible because it is the outer layer of a heat insulated hose (col. 1, lines 59-66).

In regard to claims 41 and 42, Fukui et al. teach that the flanges (the portions of outer layer, item 4, that overlap with the bottom of the turn of strip 3 immediately to the left of a given turn of strip 3 and with the top of the turn of strip 3 immediately to the right of the given turn of strip 3) project from the first and second sides thereof into an interior of the duct, that the noncombustible joint member (outer layer, item 4) is engaged with the flanges and that the

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flanges and the noncombustible joint member (outer layer, item 4) are disposed in the interior of the duct (Fig. 1, 2, 5, and 6).

In regard to claims 44, 45 and 47, Fukui et al. teach that the noncombustible sheet (outer layer, item 4) is formed from a nonflamably treated resin film (polyvinyl chloride, col. 3, lines 7-11 and col. 2, line 19).

Claim Rejections - 35 USC § 103

6. Claims 17, 18, 20, 23, 25, 32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukui et al. in view of Parrott et al.

Fukui et al. teach the duct as discussed above.

In regard to claims 17, 18, 23 and 32, Fukui et al. fail to teach that the insulating material comprises a noncombustible insulating fiber. Parrott et al., however disclose a noncombustible insulating duct (page 1, first paragraph) that comprises panels of sheet material that comprise resin-bonded mineral wool strips (item 7), which comprise mineral fibers (which are noncombustible insulating fibers), adhesively bonded to and encased by inner and outer galvanized noncombustible steel sheets (item 9) (page 6, first four lines of last paragraph, and Figures 1-4). The mineral wool sheet material is a fire-resisting material (i.e. an insulating material) (first three lines and last seven lines of page 2). Therefore, one of ordinary skill in the art would have recognized to have used the noncombustible insulating mineral fibers of Parrott et al. as the insulating material of the duct of Fukui et al. since noncombustible insulating mineral fiber is a well known material for use as insulating material for ducts as taught by Parrott et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the noncombustible insulating mineral fibers of Parrott et al. as the

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insulating material of the duct of Fukui et al. since noncombustible insulating mineral fiber is a well known material for use as insulating material for ducts as taught by Parrott et al.

In regard to claims 20, 25 and 34, since Parrott et al. teach that rock wool is a suitable mineral fiber for use as the insulating fiber (first full paragraph of page 3), it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the rock wool of Parrott et al. as the insulating material of the duct of Fukui et al. since rock wool is a well known noncombustible insulating mineral fiber for use as insulating material for ducts as taught by Parrott et al.

7. Claims 19, 24 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukui et al. in view of Parrott et al. and in further view of Berdan, II.

Fukui et al. and Parrott et al. teach the duct as discussed above. Fukui et al. and Parrott et al. fail to teach that the noncombustible insulating fiber is glass wool. Berdan, II, however, discloses that mineral fiber such as fibrous glass wool is a well known insulating fiber material (col. 1, lines 13-21). Therefore, one of ordinary skill in the art would have recognized to have used glass wool as the noncombustible insulating fiber of the duct of Fukui et al. and Parrott et al. since glass wool is a well known insulating fiber material as taught by Berdan, II.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used glass wool as the noncombustible insulating fiber of the duct of Fukui et al. and Parrott et al. since glass wool is a well known insulating fiber material as taught by Berdan, II.

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Conclusion


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter B. Aughenbaugh whose telephone number is 571-272-1488. The examiner can normally be reached on Monday-Thursday from 9:00am to 6:00pm and on alternate Fridays from 9:00am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Walter B. Aughenbaugh
06/13/05

WBA


HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

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